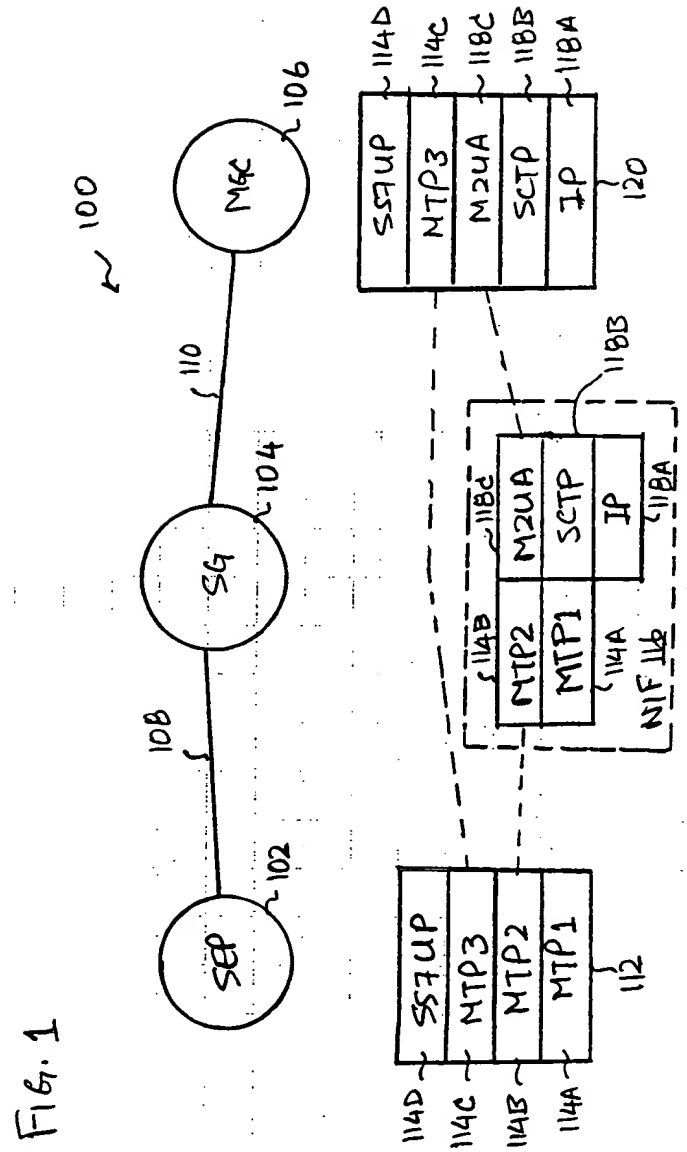

100
MGC
106
110
SG
104
108
SEP
102
SS7UP
MTP3
M2UA
SCTP
IP
120
118D
114D
114C
118C
118B
118A
MTP2
MTP1
114B
114A
NIF 116
112

Fig. 1

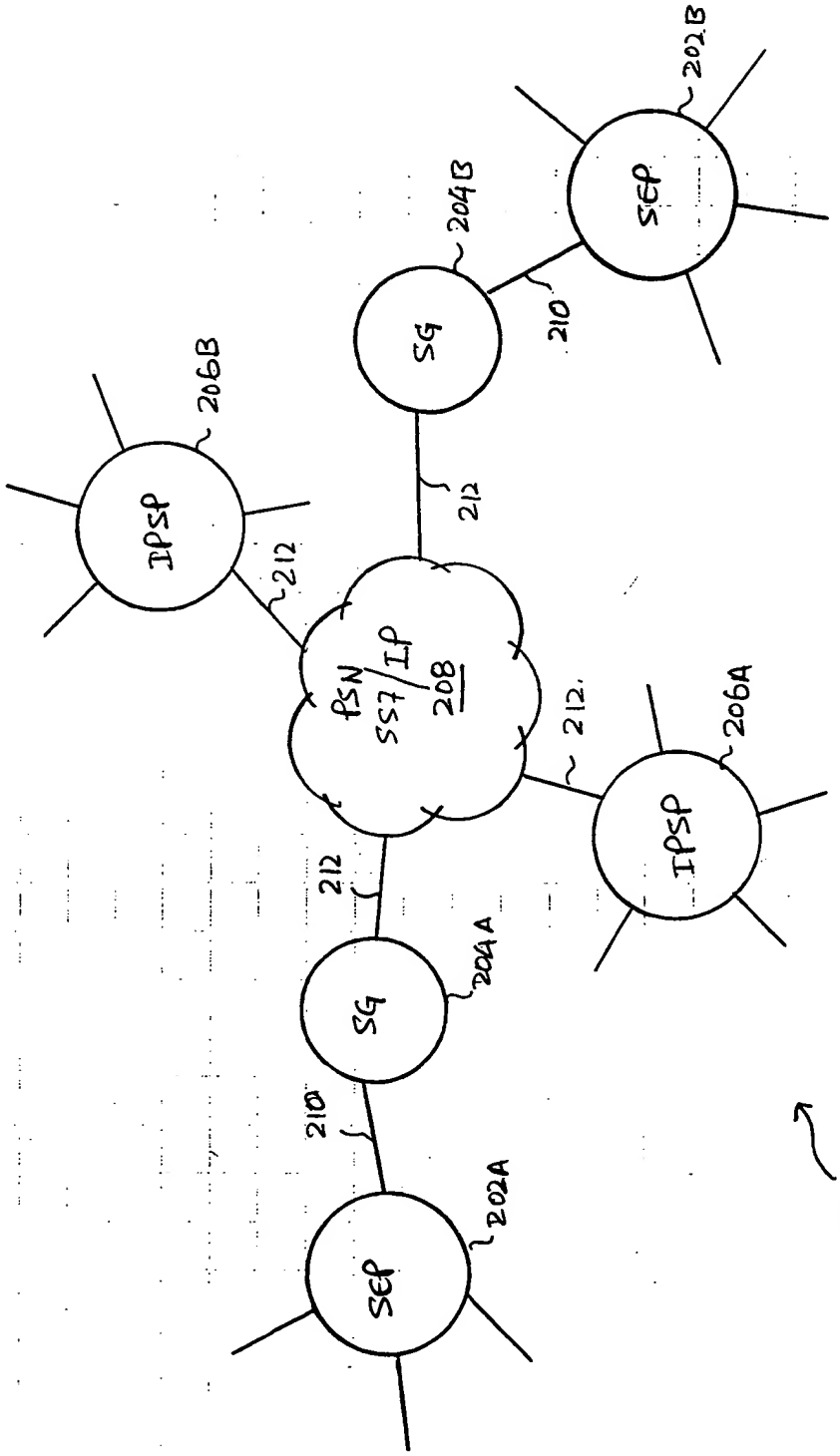

SEP
202B
SG
204B
210
IPSP
206B
212
PSN
SS7/IP
208
212
212
IPSP
206A
SG
204A
210
SEP
202A
200

FIG. 2

FIG. 3A

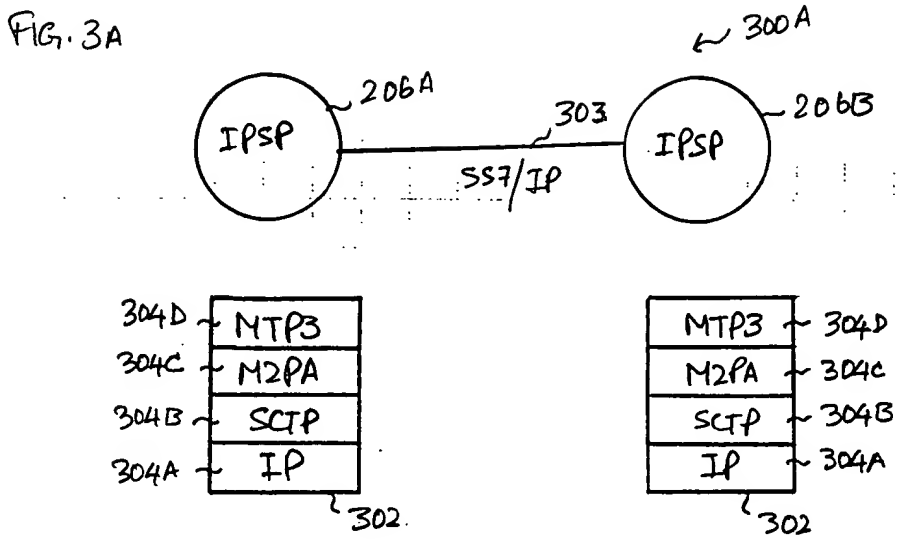
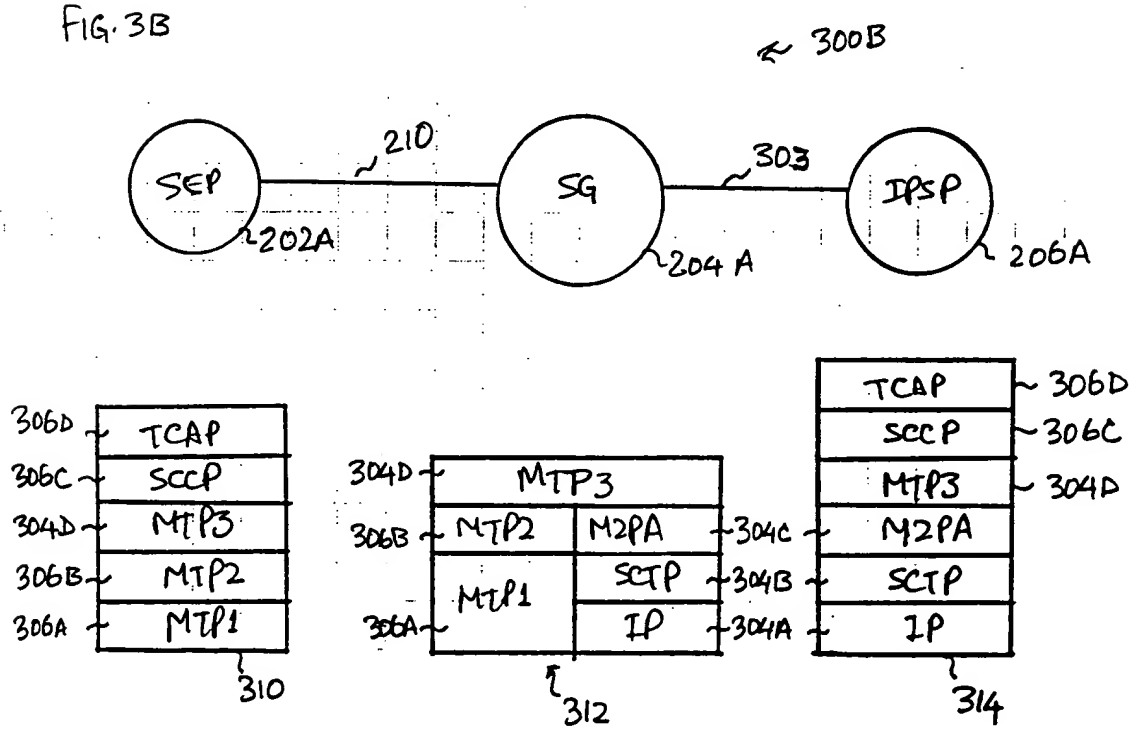


FIG. 3B



0030763.030303

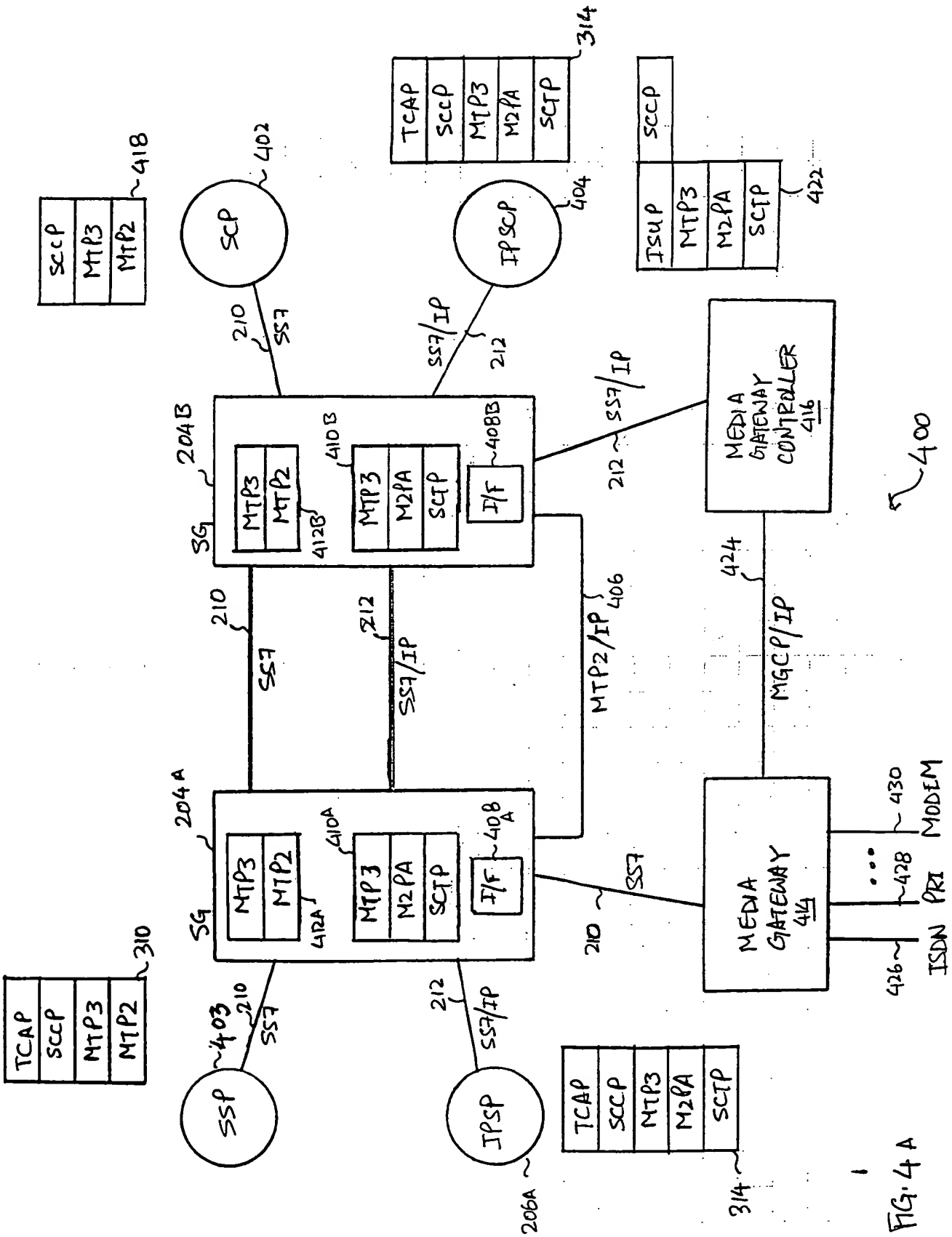

SCCP
MTP3
MTP2
418
SCP
402
TCAP
SCCP
MTP3
M2PA
SCTP
314
IPSCP
404
ISUP
MTP3
M2PA
SCTP
422
210
SS7
SS7/IP
212
204B
SG
MTP3
MTP2
412B
410B
M2PA
I/F
408B
MEDIA GATEWAY CONTROLLER 416
400
MTP2/IP
406
424
MGCP/IP
204A
412A
410A
408A
MEDIA GATEWAY 414
430
MODEM
428
ISDN PRI
426
TCAP
310
403
SSP
IPSP
206A
314

FIG. 4A

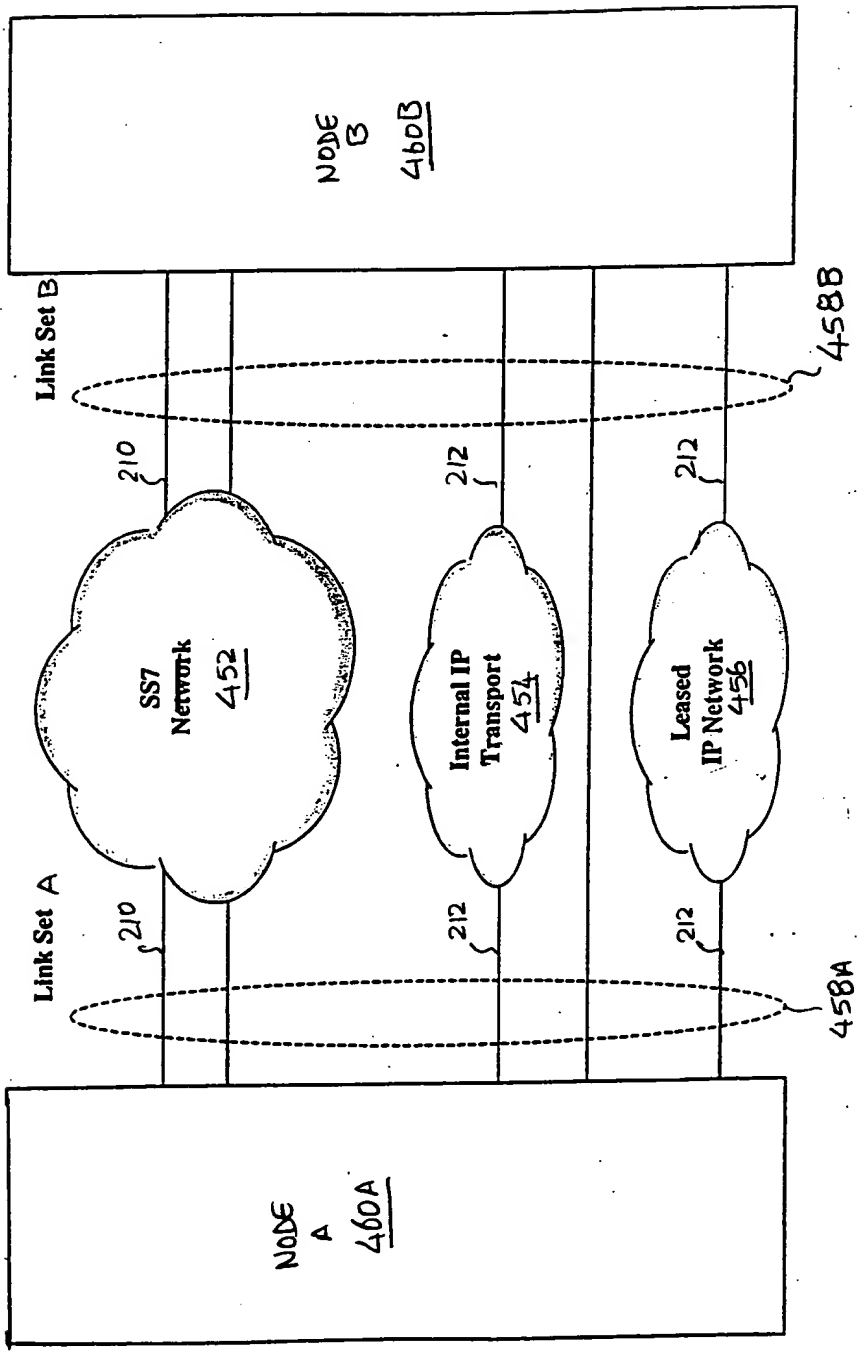

450
NODE B 460B
Link Set B
458B
210
212
212
SS7 Network 452
Internal IP Transport 454
Leased IP Network 456
Link Set A
210
212
212
458A
NODE A 460A

FIG. 4B

FIG. 5A

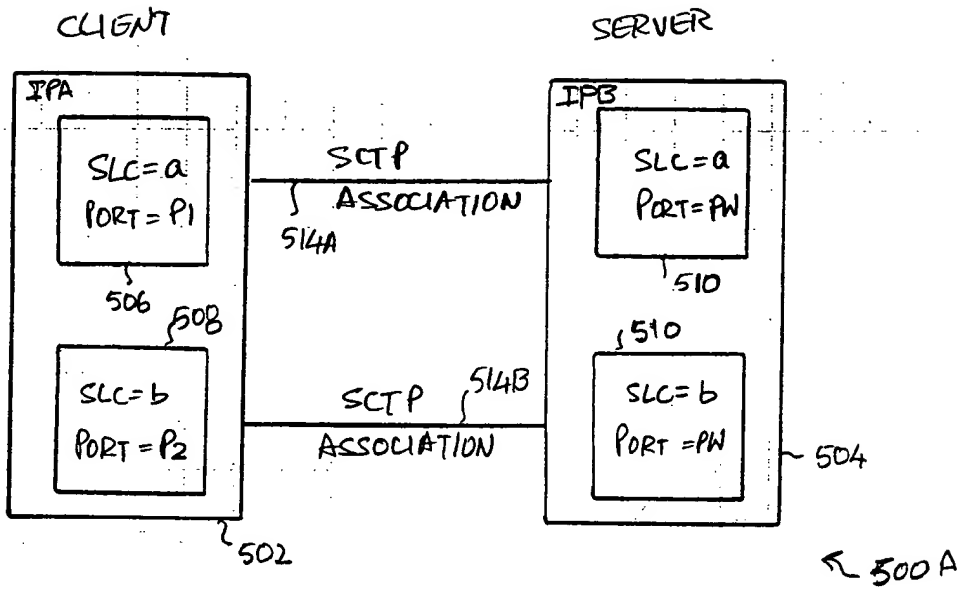


FIG. 5B

500B

ASSOCIATION				SLC
CLIENT		SERVER		
IP ADDR.	PORT	IP ADDR.	PORT	
IPA	P1	IPB	PW	a
IPA	P2	IPB	PW	b

FIG. 5C

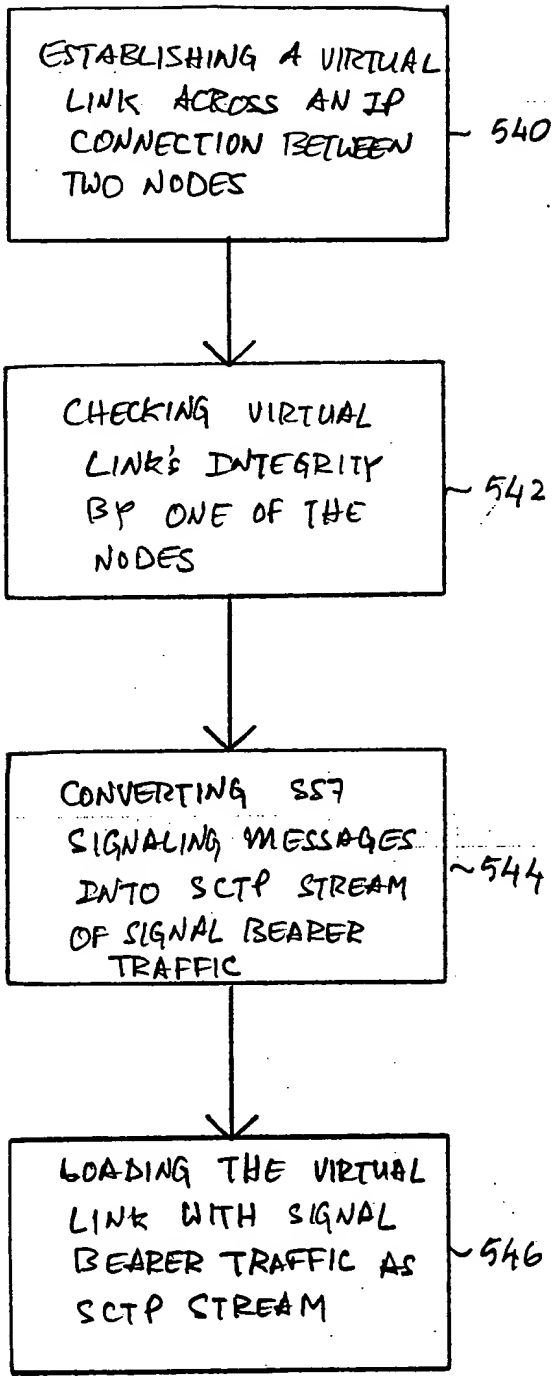

ESTABLISHING A VIRTUAL LINK ACROSS AN IP CONNECTION BETWEEN TWO NODES
540
CHECKING VIRTUAL LINK'S INTEGRITY BY ONE OF THE NODES
542
CONVERTING SS7 SIGNALING MESSAGES INTO SCTP STREAM OF SIGNAL BEARER TRAFFIC
544
LOADING THE VIRTUAL LINK WITH SIGNAL BEARER TRAFFIC AS SCTP STREAM
546

FIG. 6A

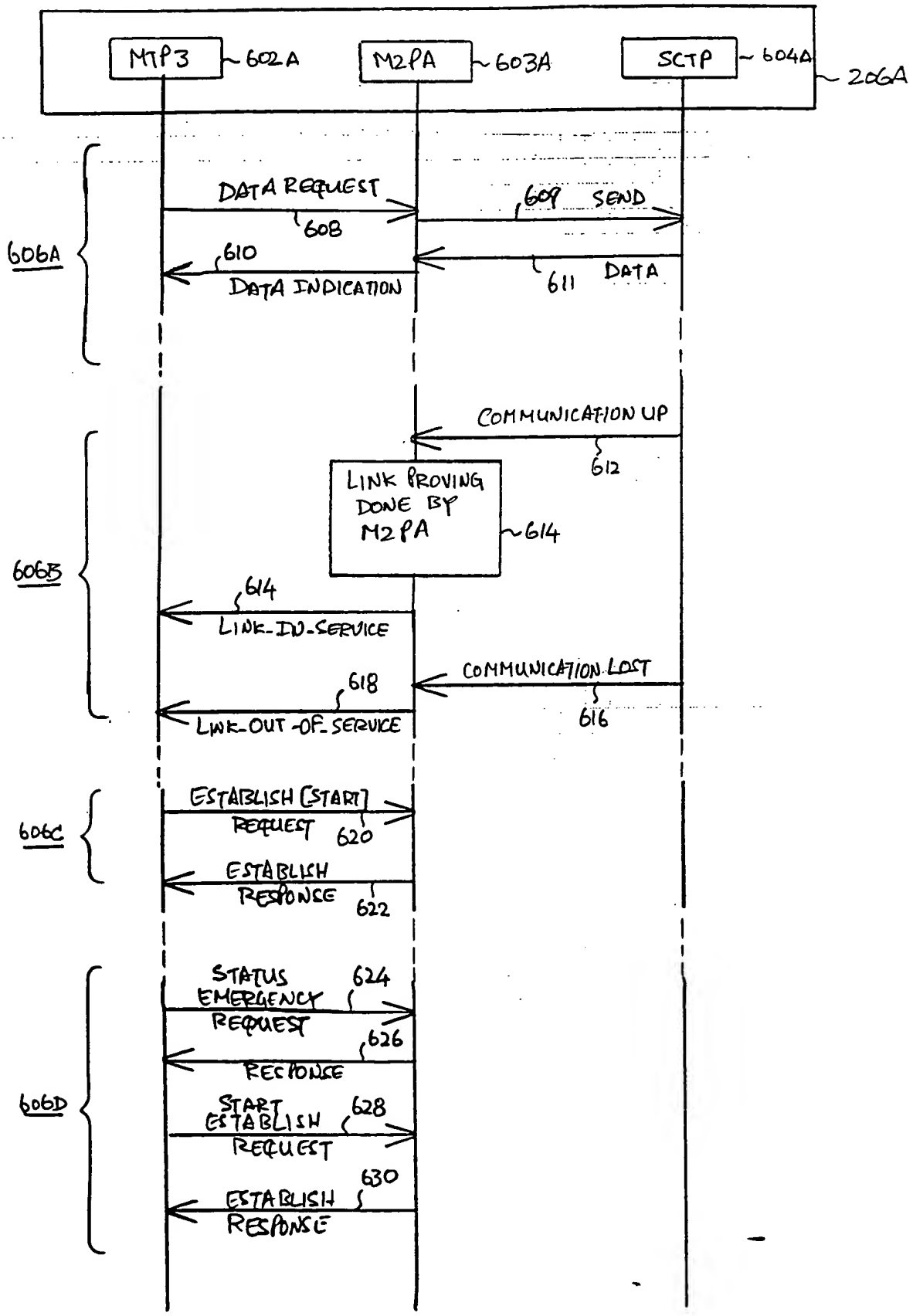
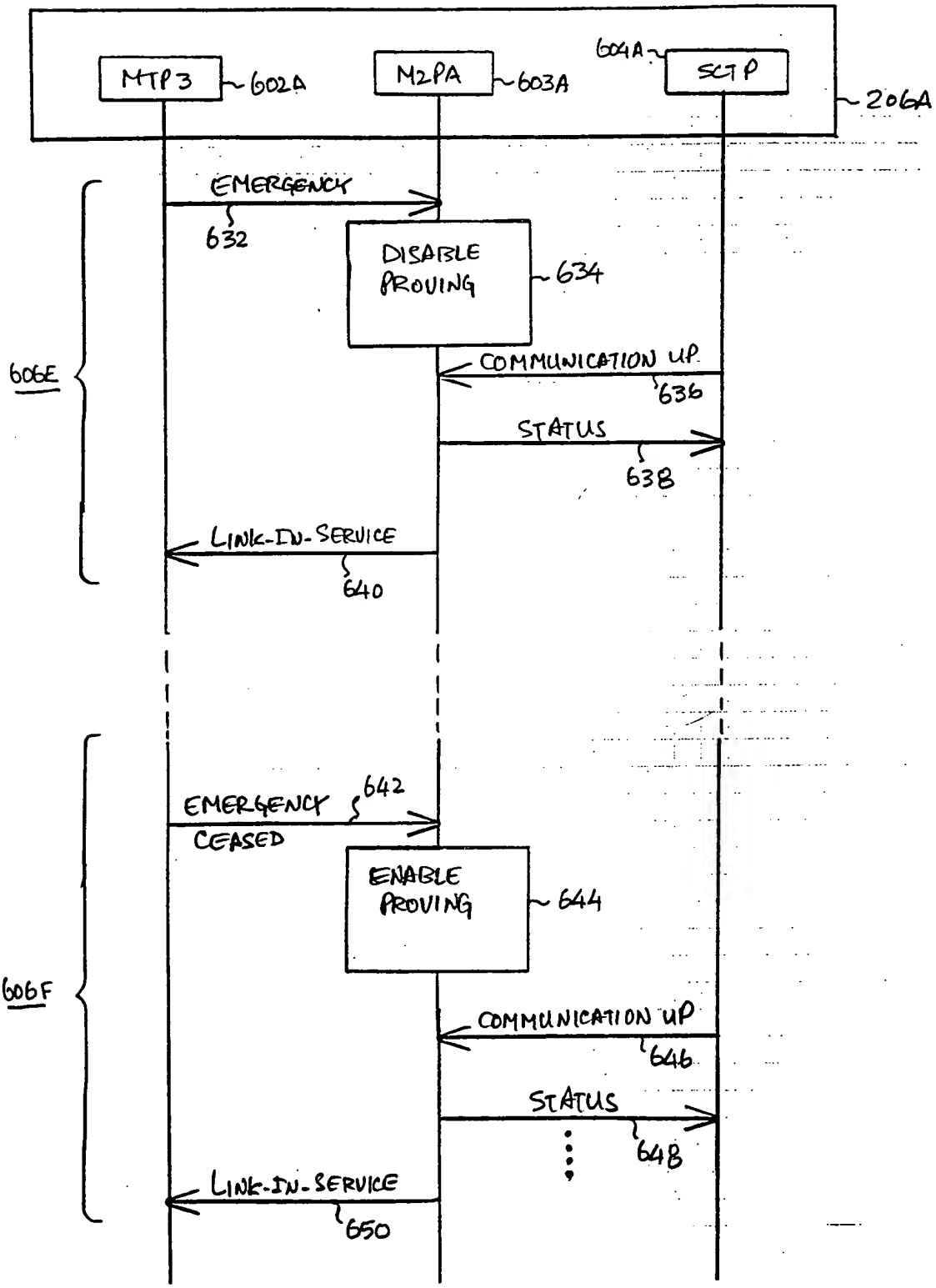

MTP3
602A
M2PA
603A
SCTP
604A
206A
DATA REQUEST
608
609 SEND
606A
610
DATA INDICATION
611 DATA
COMMUNICATION UP
612
LINK PROVING DONE BY M2PA
614
606B
614
LINK-IN-SERVICE
COMMUNICATION LOST
618
LINK-OUT-OF-SERVICE
616
ESTABLISH [START] REQUEST
620
606C
ESTABLISH RESPONSE
622
STATUS EMERGENCY REQUEST
624
626
RESPONSE
606D
START ESTABLISH REQUEST
628
ESTABLISH RESPONSE
630

FIG. 6B


MTP3
602A
M2PA
603A
604A
SCTP
206A
EMERGENCY
632
DISABLE PROVING
634
606E
COMMUNICATION UP
636
STATUS
638
LINK-IN-SERVICE
640
EMERGENCY CEASED
642
ENABLE PROVING
644
606F
COMMUNICATION UP
646
STATUS
648
LINK-IN-SERVICE
650

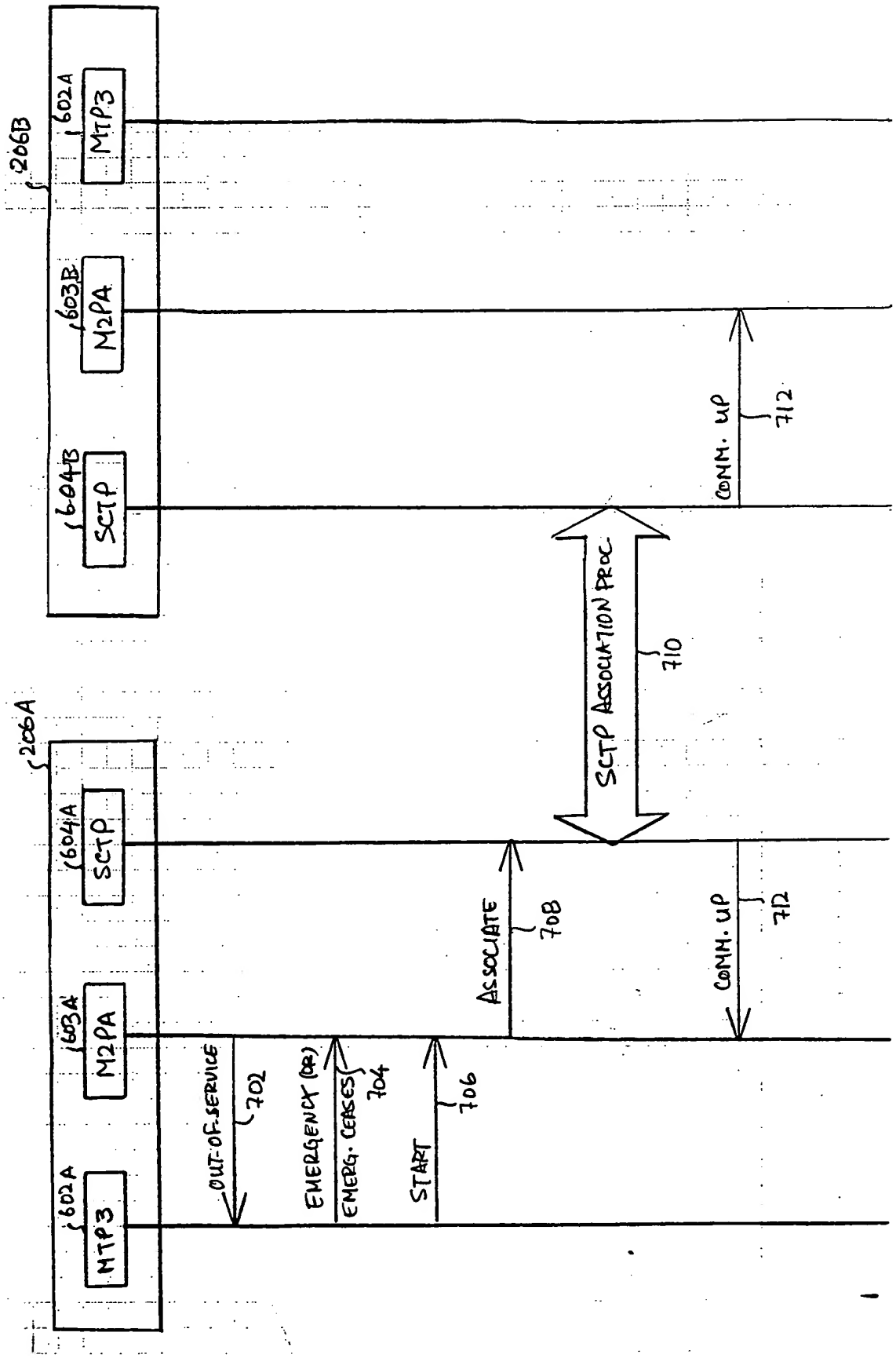
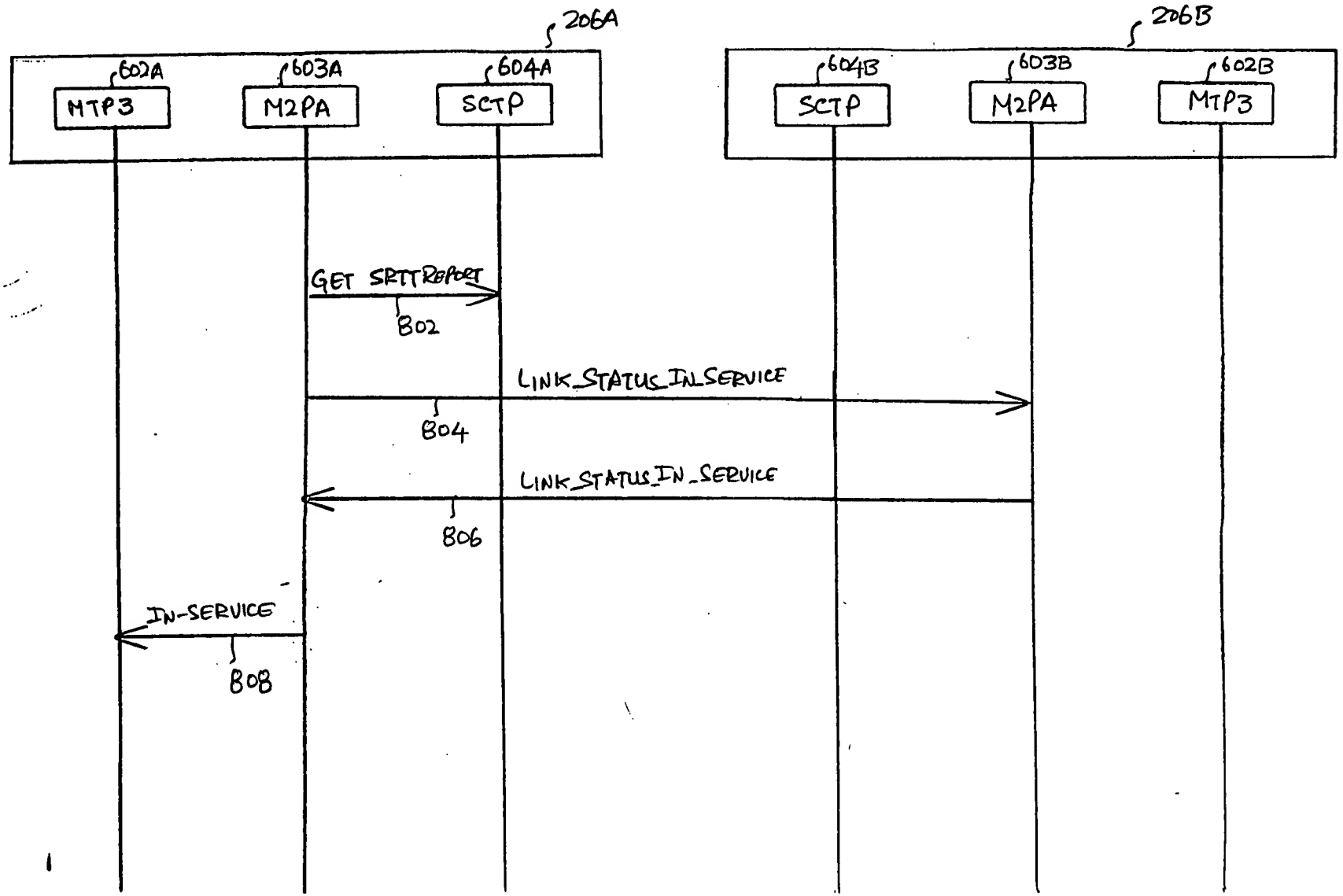

206B
602A
MTP3
603B
M2PA
604B
SCTP
206A
604A
SCTP
603A
M2PA
602A
MTP3
CONN. UP
712
SCTP ASSOCIATION PROC
710
ASSOCIATE
708
CONN. UP
712
OUT-OF-SERVICE
702
EMERGENCY (OR)
EMERG. CEASES
704
START
706

FIG. 7

DOCSBO 20ETS960

FIG. 8



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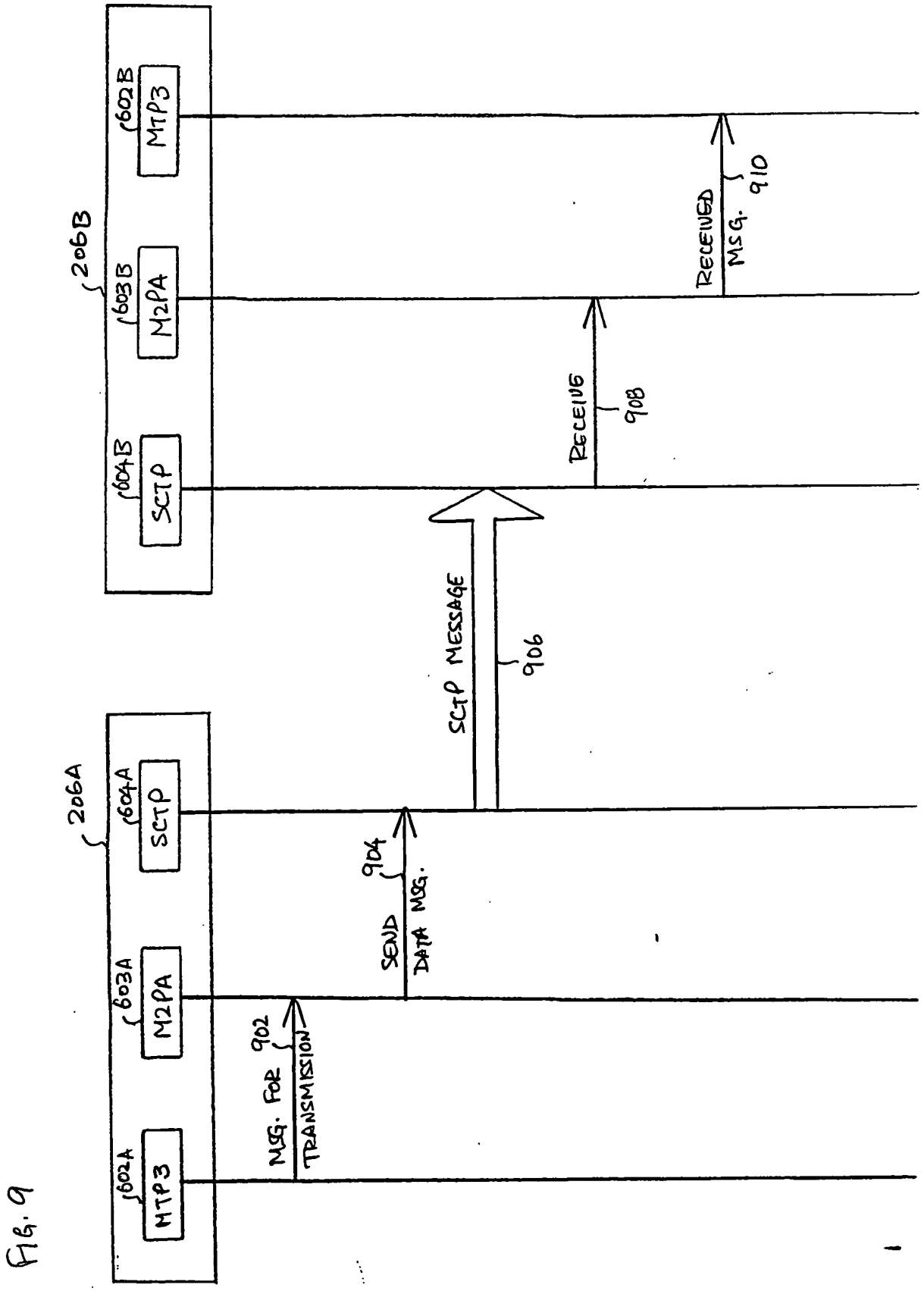

206A
602A
MTP3
603A
M2PA
604A
SCTP
206B
602B
MTP3
603B
M2PA
604B
SCTP
MSG. FOR TRANSMISSION
902
SEND DATA MSG.
904
SCTP MESSAGE
906
RECEIVE
908
RECEIVED MSG.
910

FIG. 9

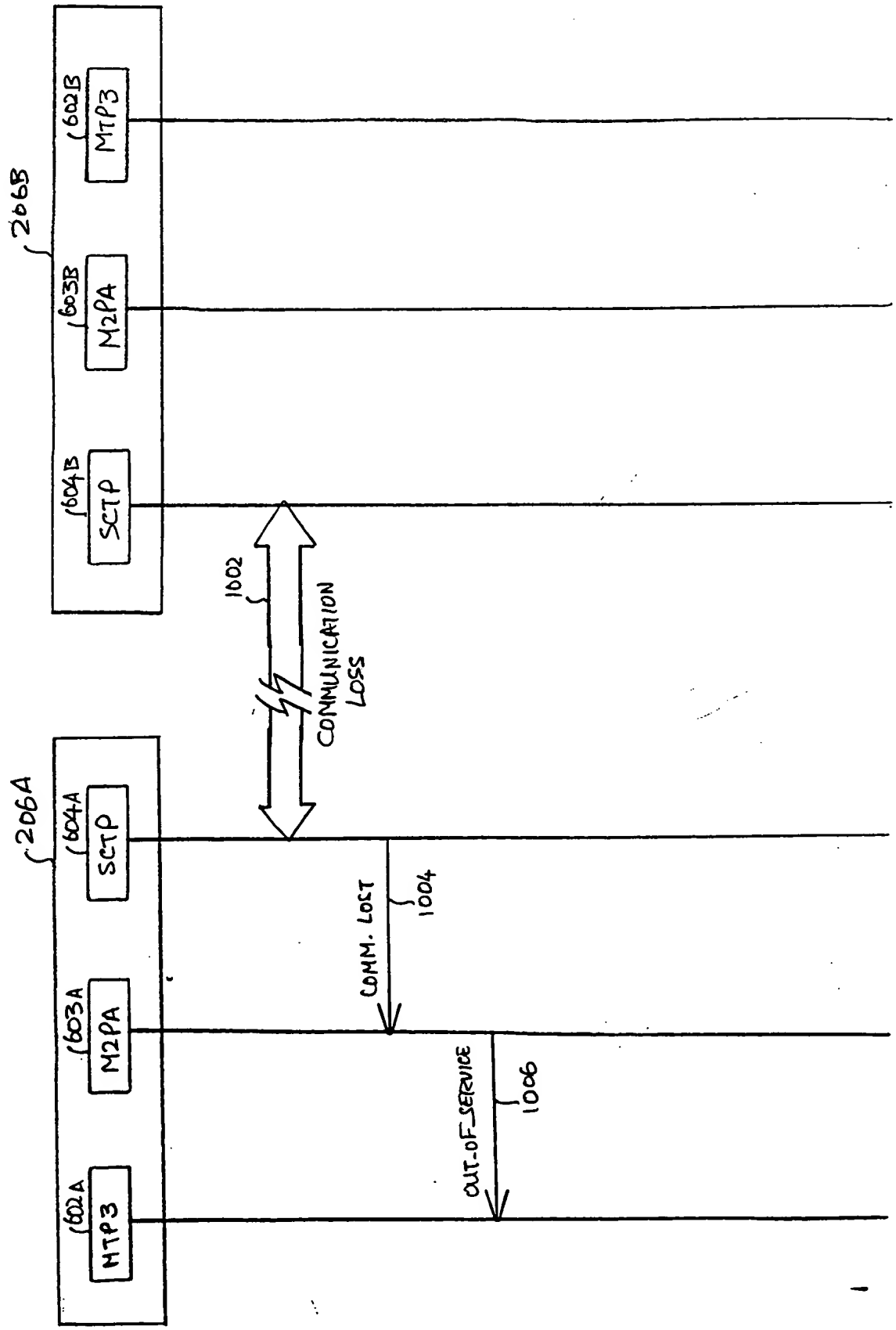

206B
602B
MTP3
603B
M2PA
604B
SCTP
1002
COMMUNICATION LOSS
206A
604A
SCTP
603A
M2PA
602A
MTP3
COMM. LOST
1004
OUT-OF-SERVICE
1006

FIG. 10

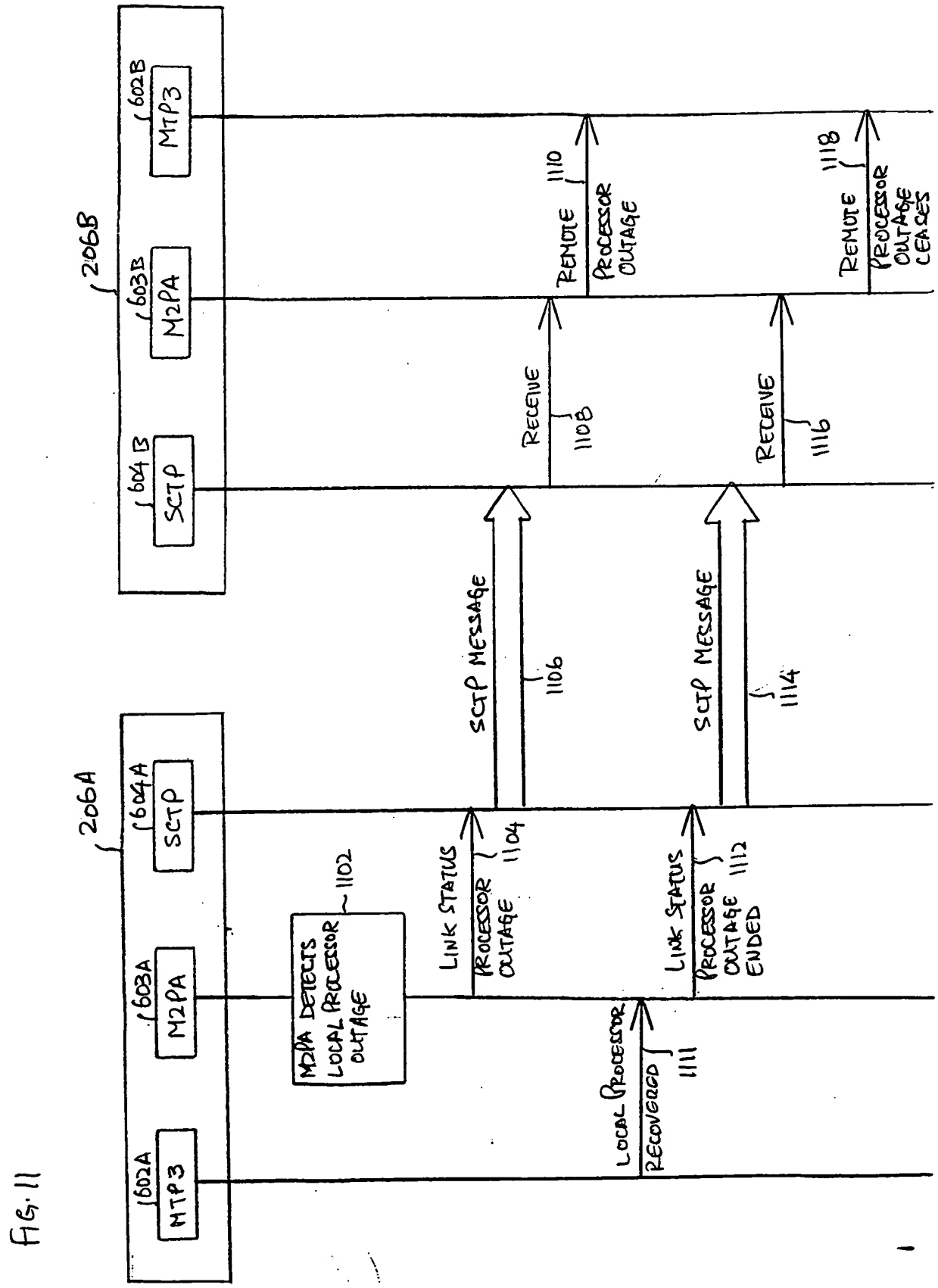

206A
206B
602A
MTP3
603A
M2PA
604A
SCTP
602B
MTP3
603B
M2PA
604B
SCTP
M2PA DETECTS LOCAL PROCESSOR OUTAGE
1102
LINK STATUS PROCESSOR OUTAGE
1104
SCTP MESSAGE
1106
RECEIVE
1108
REMOTE PROCESSOR OUTAGE
1110
LOCAL PROCESSOR RECOVERED
1111
LINK STATUS PROCESSOR OUTAGE ENDED
1112
SCTP MESSAGE
1114
RECEIVE
1116
REMOTE PROCESSOR OUTAGE CEASES
1118

FIG. 11

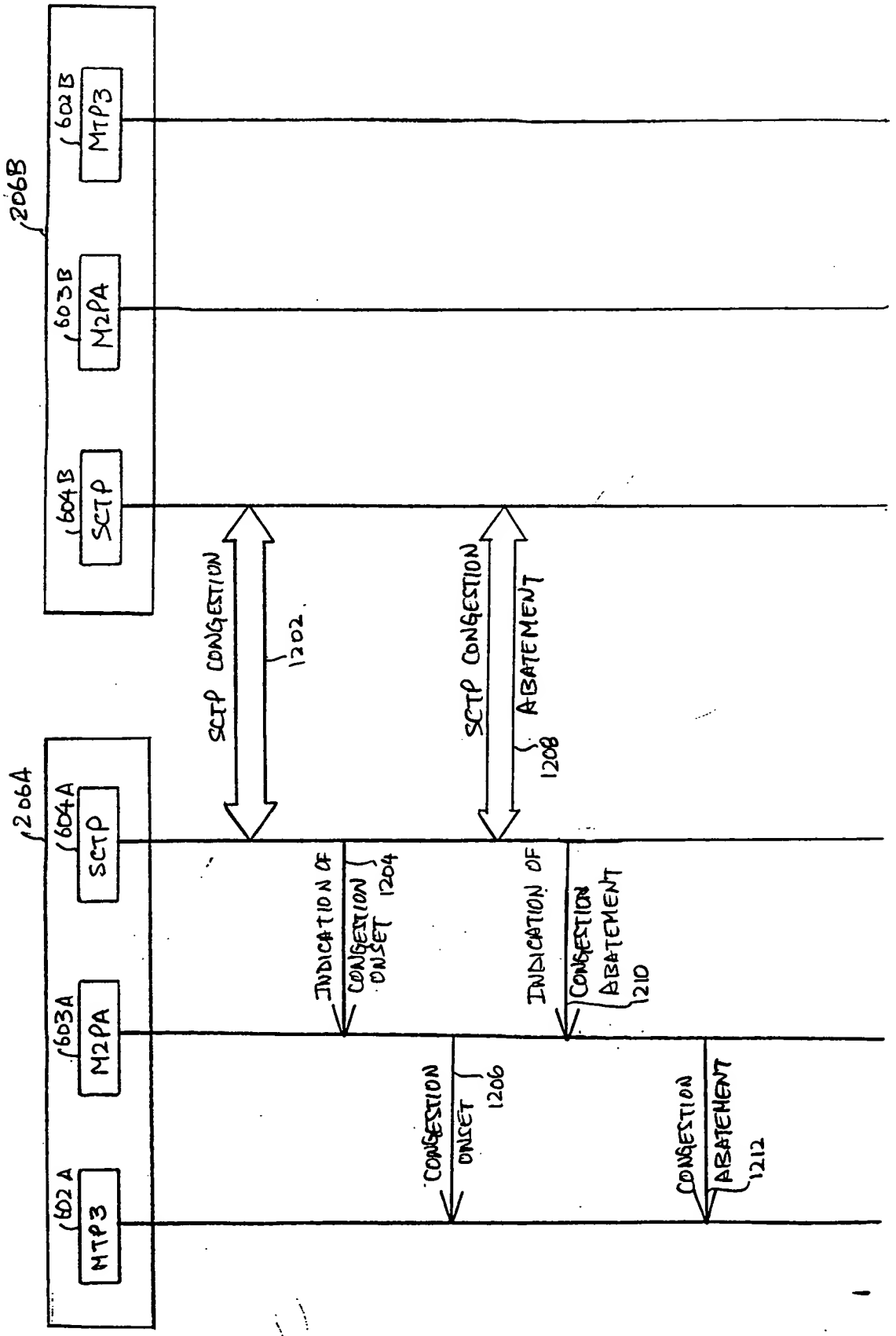

206B
602B
MTP3
603B
M2PA
604B
SCTP
SCTP CONGESTION
1202
SCTP CONGESTION ABATEMENT
1208
206A
604A
SCTP
603A
M2PA
602A
MTP3
INDICATION OF CONGESTION ONSET 1204
INDICATION OF CONGESTION ABATEMENT 1210
CONGESTION ONSET 1206
CONGESTION ABATEMENT 1212

FIG. 12

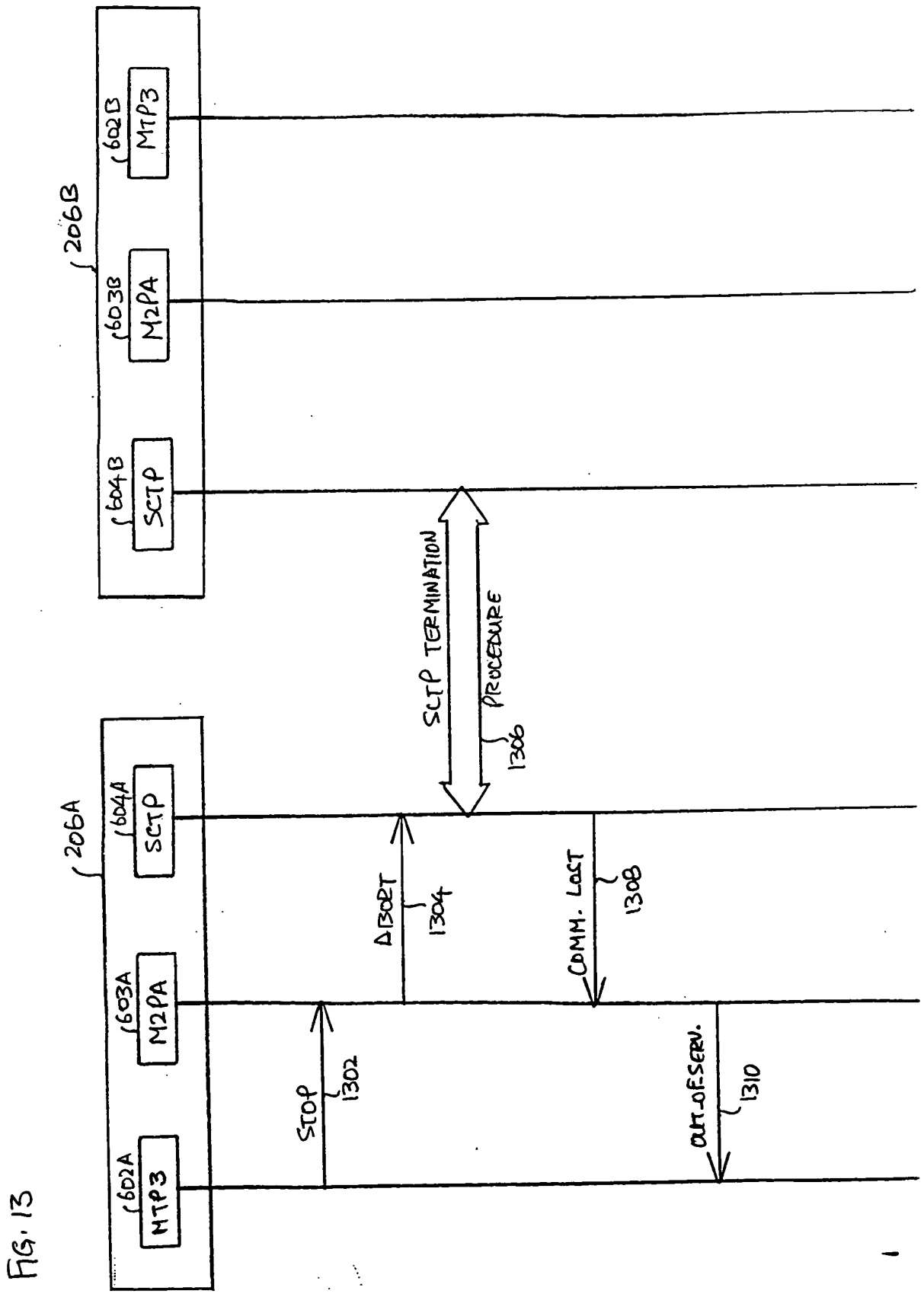
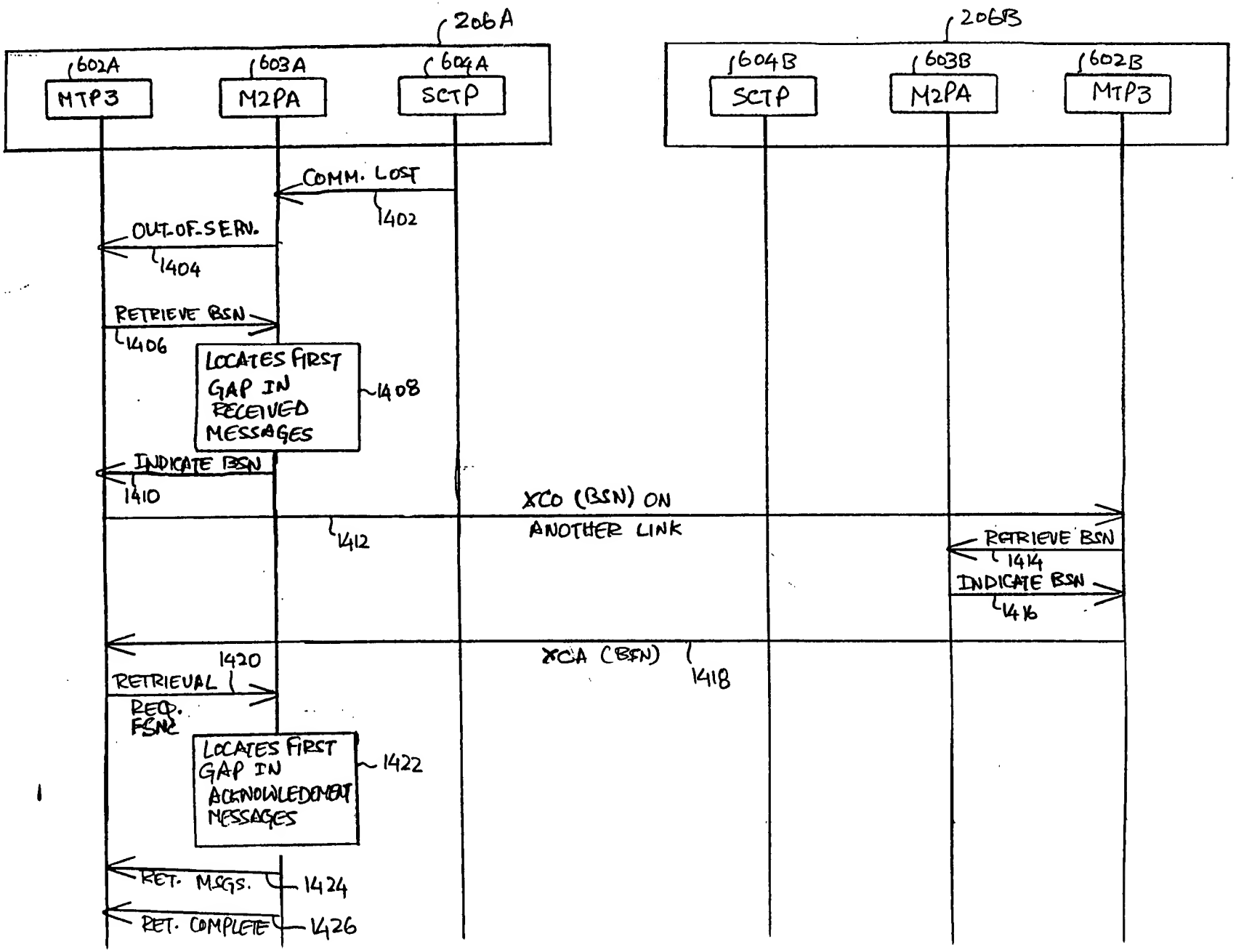

206B
602B
MTP3
603B
M2PA
604B
SCTP
SCTP TERMINATION PROCEDURE
1306
206A
604A
SCTP
603A
M2PA
602A
MTP3
ABORT
1304
COMM. LOST
1308
STOP
1302
OUT-OF-SERV.
1310

FIG. 13

FIG. 14



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